**REMARKS:**

In accordance with the foregoing, new claim 17 has been added. No new matter has been added, thus, claims 1-17 are pending and under consideration.

**INTERVIEW WITH EXAMINER:**

An interview was held on August 19, 2004 at which time the invention and U.S. Patent No. 5,995,254 ('254), a main reference used to reject claims 1-16, was discussed.

As discussed with the Examiner, in '254, multiplexed signal lights having wavelengths of λ1 and λ2 remain coupled until receipt of the same via receiving sections. For example, FIG. 2 of '254 shows that signal lights having wavelengths of λ1 and λ2 are transmitted from light source 5 and 24, respectively, and the signal lights are multiplexed via a coupler (element 7). The multiplexed signal lights remain coupled and are transmitted to light returning circuits (element 12 in FIG. 2), which in turn transmit the multiplexed signal lights to another optical fiber transmission line (see, column 3, lines 50-59 of '254). This means that the '254 system maintains the light signals multiplexed (λ1 and λ2) until the multiplexed signals are branched off by elements 9 and transmitted to up and down line receivers (see, column 4, lines 6-10 of '254).

In contrast, a first optical dividing unit (element 200 in FIG. 2 of the present invention) demultiplexes or splits a first coupled signal into a down data signal with a first wavelength λ1 and an examination signal with the second wavelength λ2 where the examination signal λ2 is returned to the source. As recited in each of the independent claims 1, 12-16, first optical dividing unit is provided to "demultiplex said first coupled signal from said optical coupling unit so as to divide and split said first coupled signal into said down data signal with the first wavelength and said examination signal with the second wavelength".

This means that unlike the '254 system that maintains the coupled signal (λ1 and λ2) until receipt of the same by the receiver sections, the first dividing unit splits the down data signal with the first wavelength λ1 and the examination signal with the second wavelength λ2 where the second coupling unit "... couples an up data signal with the first wavelength and said examination signal from said first optical dividing unit so as to transmit a second coupled signal" (see, independent claims 1, 12, 13-16, and FIG. 2 and FIG. 9 of the present invention). This allows the transmission monitoring apparatus of the present invention to pinpoint fault without affecting the data signal with the first wavelength, and to monitor the transmission line even when power is not supplied to an in-house apparatus. The '254 system does not teach or suggest a transmission monitoring system where an examination signal having a second wavelength λ2 is returned to be

coupled with re-generated or processed data signal having a first wavelength λ1.

During the Interview of August 19, 2004, the Examiner asserted that the signal light having wavelength λ2 that is received by receiving section (element 27 in FIG. 2 of '254) is returned via a light source (element 26 in FIG. 2 of '254). However, Applicants respectfully assert that there is no such teaching or suggestion in '254.

The Examiner acknowledges that '254 does not disclose a monitoring unit which monitors a fault and a location thereof, thus relies on '525 as providing the same. The optical signal fault monitor of '525 monitors an optical signal cut-off fault by detecting the optical loss of a signal (OLOS), by determining presence or absence of a signal light, by determining presence or absence of the signal light from intensity of light, or detecting the optical loss of wavelength (OLOW) and by detecting the optical signal degrade (OSD) (see, column 5, lines 34-63 of '525). Accordingly, the '525 system monitors fault by sensing or detecting a fault signal and converting the fault signal into an optical alarm indication signal by cutting off the signal light from an output corresponding to the fault detection signal (see, column 6, lines 5-11 of '525). Because the gate output is cut off due to the optical alarm indication signal, the fault occurrence is noticed (see, column 15, lines 58-60, and column 16, lines 10-15 of '525). Thus, the '525 optical signal fault monitor does not disclose transmitting an examination signal and returning the same for monitoring fault, instead discusses sensing/detecting signal loss and switching on/off states of corresponding optical gates to monitor fault.

The Examiner also acknowledges that neither '254 nor '525 disclose a timer for managing a control unit at given intervals, thus relies on '652 as providing the same. The '652 system includes components of a control system connected in a ring configuration (see, column 2, lines 30-32 of '652) where two signal timers are included in the control unit and in each data unit (see, column 3, lines 54-56 of '652). Each signal timer is adapted to receive signals picked by respective receiver to monitor the period of time between the end of one signal or data packet and the start of the next data packet (see, column 3, lines 57-65 of '652). This is unlike the timer provided to manage the first control unit of the present invention "... which controls a start and stop of said first examination generator" (see, claims 7, 9, and 11 of the present invention) to reduce power consumption by operating the signal generator at given time intervals.

The combination of '254, '525 and '652 does not result in a transmission monitoring apparatus where coupled signal having different wavelengths are split where an examination with a second wavelength is returned and coupled with a data signal having first wavelength for monitoring the transmission line. Thus, it would not have been obvious to one ordinary in the skill

to combine '254, '525 and '652 and produce a transmission line monitoring system as disclosed in the present invention.

As indicated in the Interview Summary of August 19, 2004, the Examiner agrees that the '254 reference upon which the Examiner relies to reject all of the outstanding claims, does not teach or suggest all the features of the present invention.

Thus, withdrawal of the finality of the outstanding rejections is respectfully requested.

**NEW CLAIM:**

New claim 17 has been added to further highlight a feature of the present invention that allows "demultiplexing the first coupled signal to split the data signal with the first wavelength from the examination signal of the second wavelength, and return the examination signal of the second wavelength". The method of the present invention includes, "transmitting a second coupled signal having the data signal with the first wavelength and the returned examination signal of the second wavelength " where the data signal with the first wavelength (i.e. passed through frame converter, etc.) and the returned examination signal are coupled and transmitted. This allows the present invention to pinpoint the exact location of a fault, thereby eliminating the need to perform field surveys to determine the exact location of the fault.

**CONCLUSION:**

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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